

Fabrication and Performance of Nb<sub>3</sub>Sn Rutherford-type cable with Cu added as a separate component

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From the standpoint of overall conductor cost, it is desirable to minimize the amount of Cu that is co-processed with the superconductor during strand fabrication. We are investigating several approaches for fabricating multistrand cables in which the Cu is added at the final, i.e. cabling, stage of manufacture. These include (1) mixed strand Rutherford-type cables with pure Cu strands cabled together with superconductor strands that have a low volume fraction of Cu, and (2) Cu added as a core to a Rutherford-type cable, again with low Cu fraction superconductor strands. Results on fabrication of several alternate types of Nb<sub>3</sub>Sn cables are presented. The more promising types of mixed strand and cored cables are being evaluated in short sample and small magnet tests. These results will be presented and performance compared with conventional Rutherford cables where the Cu is an integral component of the superconductor strand.